

# **Back Injury Prevention**

**LG #18**

# **A. Background**



# The Back Supports the Whole Body

- **Spine consists of 33 bones**
  - ➔ **Upper 24 separated by discs acting as cushions**
- **Spinal cord is half-inch cable of nerves**
  - **Controls all activity below the neck**
- **Thirty-one branches of nerves extend from spinal cord**
  - **Sends information to the brain, and orders to the muscles**



# Causes of Back Problems

## ➤ **Overweight**

→ **Can put extra stress on muscles**

## ➤ **Out of shape**

□ **Weak muscles can't do supporting job**

## ➤ **Poor posture**

□ **Puts unnecessary pressure and curvature on the back**

# Common Back Problems

- **Muscle fatigue and strain**
- **Fractured vertebra**
  - **May injure spinal cord and cause paralysis**
- **Ruptured or “slipped” disc**
  - ▮ **Presses on spinal nerves and causes pain in back and legs**
- **Diseases**
  - ▮ **Arthritis**
  - ▮ **Other infections**

Slipped  
Disc





## **B. Preventing Back Injuries**

# Exercise and Posture

## ➤ Exercises to strengthen back muscles

- Pelvic tilt

- Knees-to-chest

- Bent-leg sit-ups

## ➤ Exercises to help posture

- Sit with knees higher than hips. Lift feet slightly while keeping back against backrest

- Stand tall--head high, chin in, chest out. Lean forward, knees slightly bent



# More Self-Help

- **Sleep on firm mattress**
  - **Lie on side with hips and knees bent**
  - **Avoid sleeping on stomach**
- **Adjust desk chair to properly support back**
- **Stretch frequently & readjust posture to relieve fatigue**

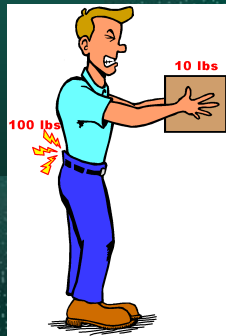
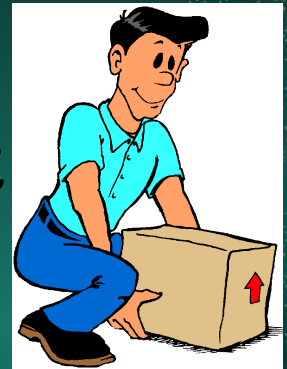


# Safe Lifting Rules

- **Stand close to the object--have a firm footing**
- **Keep the back straight while bending the knees**
- **Grasp the object firmly**
- **Lift with the leg muscles**
  - ➔ **Slowly straighten legs and bring back to vertical position**

# Safe Lifting Rules

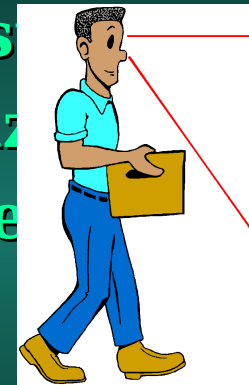
- **Hold object firmly close to the body while moving**
- **Use same motions to set object down**
- **Avoid sudden, jerky motions**
- **Turn with feet instead of back**
- **Do not extend arms too far away from the body to set object down**





# Use Your Head Before You Use Your Back

- **Examine an object for best way to hold it**
- **Check for sharp edges, grease, moisture**
- **Clear path of obstructions & trip hazards**
- **Know where and how to deposit object**
- **If in doubt--get help!**



# Special Precautions

## ➤ Overhead Lifting

- ▮ Keep firm footing
- ▮ Get a ladder or platform
- ▮ Get help!



## ➤ Heavy objects

- ▮ Use more than one person
- ▮ Break down object into smaller loads





## **C. Back-Saving Tips**

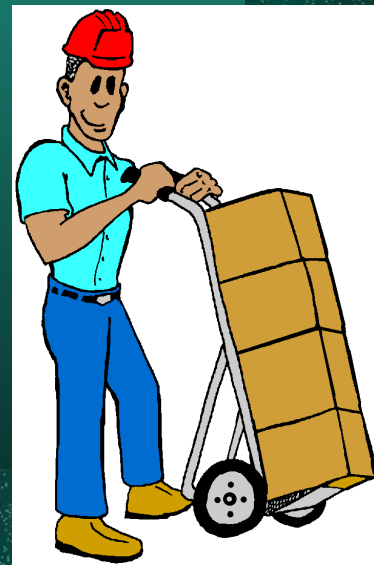
# On-the-Job

- **Keep knees bent to flatten the back**
- **Bend knees deeply to relieve strain--when working low**
- **Plant feet firmly for all lifting jobs**
- **Dismount from platforms/vehicles carefully**
  - **Lower yourself slowly**
  - **Don't jump!**



# On-the-Job

- **Don't try to catch falling objects**
- **When driving**
  - **Keep seat forward**
  - **Keep knees bent & higher than hips**
- **Use moving & lifting tools**
  - **Hand trucks**
  - **Hoists**
  - **Dollies**



# What About Home?

- Choose lightweight tools with long handles
- Stand near work instead of reaching
- For shoveling:
  - Keep hands separated for good leverage
  - Lift with knees--back straight
  - Don't twist
- Use work saving devices
- Stop and stretch often



## **D. Emergency First Aid for Back Injuries**



# Spinal Fractures

- **Can be caused by a severe blow or twist to person's head, neck, or back**
- **Possible fracture symptoms may include:**
  - **Severe pain across chest, abdomen, or down legs**
  - **Muscle spasms**
  - **Weakness or numbness below the area of injury**

# What do I do?

- **Call away a MEDICAL EMERGENCY**
- **DO NOT move the victim**
- **If movement is unavoidable, get helpers to keep head, neck and back straight**
- **Do not let victim attempt to sit, stand, or walk**



# **What about First Aid for a Strain or Sprain?**

- **Call for medical help**
- **Assist the victim in lying flat or assuming a position of least pain**
- **Avoid unnecessary movement until help arrives**